

CLAIMS

1. A screw conveyor (2) intended and formed for use in a decanter centrifuge for separation of solid particles from a fluid compound, in which such particles are suspended in a liquid having a smaller density than the particles, the decanter centrifuge comprising
- 5 - a rotor (1), which has an inlet (14) for said compound, an outlet (7) for separated solid particles and an outlet (6) for liquid having been freed from solid particles, and which rotor (1) is rotatable about a rotational axis
- 10 (R) at a first velocity, and
- a screw conveyor (2), which is arranged in the rotor (1) and is rotatable about the rotational axis (R) at a second velocity different from the first velocity,
- the screw conveyor (2) comprising
- 15 - a central body (10), which extends along the rotational axis (R),
- at least one conveyor thread (11a; 11b), which extends like a screw thread along and about the central body (10) and is supported by the same such that a screw shaped flow path is formed around the body (10),
- at least one baffle (12), which bridges said flow path between different
- 20 parts of the conveyor thread (11a; 11b) to prevent free movement of liquid and solid particles along the flow path towards said outlet (7) for solid particles, and
- at least two originally separate parts (22, 23), each of which comprises a portion of said conveyor thread (11a; 11b) and which are kept together
- 25 axially, said baffle (12) constituting a separate member arranged to be kept in place between said parts (22, 23) of the screw conveyor, when these are kept together axially,

characterized in

- that said separate member has a portion (26; 27), which forms a part of the conveyor thread (11a; 11b) in an area where the conveyor thread intersects with and extends past the baffle (12).

- 5 2. A screw conveyor according to claim 1, in which said separate member is arranged to be kept in place by said parts (22, 23) of the screw conveyor (2), when these parts are kept together axially.
3. A screw conveyor according to claim 1 or 2, in which said parts (22,
10 23) of the screw conveyor (2) are detachably connected to each other.
4. A screw conveyor according to any one of claims 1-3, in which each of said screw conveyor parts (22, 23) comprises a part of the central body (10).
- 15 5. A screw conveyor according to any one of claims 1-4, in which each of said screw conveyor parts (22, 23) comprises a substantially cylindrical portion (24; 25) having axial ribs and grooves, one of the parts having internal ribs and grooves and another one of the parts having external
20 ribs and grooves, arranged to keep the parts of the screw conveyor drivingly coupled together.
6. A screw conveyor according to any one of claims 1-5, in which the parts (22, 23) of the screw conveyor are arranged to be axially together
25 by means of a member (29), which extends axially through a part of the central body (10).
7. A screw conveyor according to any one of claims 1-6, in which.

- two conveyor threads (11a, 11b) extend like screw threads along and about the central body (10) and are supported by the same such that two screw shaped flow paths are formed around the body (10), and
 - there is a baffle (28a; 28b) of the defined kind for each of said flow paths; the baffles (28a, 28b) bridging the respective flow paths between different sections of the conveyor threads (11a, 11b) to prevent free movement of liquid and solid particles along the flow paths towards said outlet (7) for solid particles.
10. 8. A screw conveyor according to claim 7, in which the baffles (28a, 28b) are formed as one single member (12), which is arranged to bridge said two flow paths and to be kept in place between said two parts (22, 23) of the screw conveyor (2).
- 15 9. A screw conveyor according to claim 8, in which said single member (12) has substantially the form of an annular disc having two diametrically opposed portions (26, 27), of which one portion (26) forms a part of one (11a) of said conveyor threads and the other portion (27) forms a part of the other one (11b) of said conveyor threads.
- 20 10. A screw conveyor according to claim 9, in which the annular disc (12) comprises two diametrically opposed additional portions (28a, 28b), each forming one of said two baffles, which bridge the respective two screw-shaped flow paths.
- 25 11. A screw conveyor according to any one of claims 1-8, in which said at least one baffle (28a; 28b) bridges its flow path from a radial level at a first distance from the rotational axis (R) to a radial level at a second greater distance from the rotational axis (R), the second greater distance being smaller than the distance between the rotational axis (R) and the
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circumferential part of said conveyor thread (11a; 11b) in the area of the baffle (28a; 28b) in question.

12. A screw conveyor according to claim 9 or 10, in which said baffles (28a, 28b) bridge respective flow paths from a radial level at a first distance from the rotational axis (R) to a radial level at a second greater distance from the rotational axis (R), the second greater distance being smaller than the distance between the rotational axis (R) and the circumferential parts of said conveyor threads (11a, 11b) in the areas of the baffles (28a, 28b) in question.